TECHLAW INC.

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RZ2.R05020.01.ID.298

September 24, 1998

Mr. Brian Freeman
U.S. Environmental Protection Agency
Region 5 DE-9J
77 West Jackson Boulevard
Chicago, Illinois 60604

Reference: EPA Contract No. 68-W4-0006; Work Assignment No. R05020; Quality Assurance Project Plan Screening and Development; Cozzi Iron and Metals, Inc., Chicago, Illinois; EPA ID No. ILD047581335; Site-Specific Field Sampling and Analysis Plan; Task 05 Deliverable

Dear Mr. Freeman:

Please find enclosed TechLaw's Site-Specific Field Sampling and Analysis Plan (SAP) for sampling activities proposed at the following three Cozzi Iron and Metal, Inc., (Cozzi) facilities in Chicago, Illinois: 2500 South Paulina Street, 9331 South Ewing Street and 1509 West Courtland Street. Please note that although there are seven Cozzi facilities, environmental samples will be collected at only the three Cozzi facilities listed. The Cozzi facility located at 2232 South Blue Island Avenue in Chicago, Illinois, is the site of Cozzi's offices; no facility operations occur at this address. During the RCRA and TSCA site inspections conducted by the U.S. EPA, no contamination was visually observed at the following two facilities: 3200 East 96th Street and 350 North Artesian Street. The Cozzi facility at 3151 South California Street was inspected previously, at which time environmental samples were collected. Five of the six samples collected at the facility were found to contain polychlorinated biphenyls (PCBs) in excess of 50 parts per million.

In order to provide comparable results from the three Cozzi facilities, a single draft SAP has been prepared to guide sampling at all three facilities. This SAP was prepared based on the Follow-up and Planning for Sampling Inspections Meeting held at U.S. EPA, Region 5 offices at 77 West Jackson Boulevard in Chicago, Illinois, on August 6, 1998.

The attached SAP contains procedures for the collection of waste, soil, surface water and sediment samples. The purpose of this sampling is to determine whether the wastes stored at Cozzi facilities contain hazardous constituents and whether hazardous materials have impacted

the environmental media at the sites. Hazardous constituents potentially present at the Cozzi facilities include heavy metals, PCBs, volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs).

Sampling is anticipated to begin on or about September 29, 1998, and continue for approximately four days.

Based on available information, the SAP indicates that the environmental samples collected will be analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals and VOCs, SVOCs, and ignitability. As outlined in the attached SAP, not all samples will be analyzed for all constituents. TechLaw will use SW-846 Method 5035 for the collection of soil samples for VOC using an EnCore™ sampling device in accordance with TechLaw's Standard Operating Procedure (SOP). TechLaw's SOP for this method is currently in draft form; however, it is anticipated that the SOP will be finalized by the time this SAP is finalized. U.S. EPA TSCA personnel will collect samples for PCB analyses from the Cozzi facilities.

If you have any questions, please contact me or Mr. Jeff Raines, the TechLaw Technical Lead, at (312) 345-8968. Thank you for the opportunity for TechLaw to provide these services to the U.S. EPA.

Sincerely,

Patricia Brown-Derocher

Patricia Brown-Derocher
Regional Manager

Enclosure

cc: F. Norling, U.S. EPA, Region 5 (w/o attachment)
G. Opek, U.S. EPA, Region 5
K. Zolnierczyk, U.S. EPA, Region 5
Sherry Estes, U.S. EPA, Region 5
Mary McAuliffe, U.S. EPA, Region 5
W. Jordan, Central Files
J. Raines
Chicago Central Files

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SITE SPECIFIC SAMPLING AND ANALYSIS PLAN
COZZI IRON AND METAL, INC.
CHICAGO, ILLINOIS
EPA ID NO. ILD047581335

TASK 05 DELIVERABLE

Submitted to:

Mr. Brian Freeman
U.S. Environmental Protection Agency
Region 5 DE-9J
77 West Jackson Boulevard
Chicago, Illinois 60604

Submitted by:

TechLaw, Inc.
20 North Wacker Drive, Suite 1260
Chicago, Illinois 60606

EPA Work Assignment No.	**R05020**
Contract Number	**68-W4-0006**
TechLaw WAM	**Patricia Brown-Derocher**
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EPA WAM	**Brian Freeman**
Telephone No.	**(312) 353-2720**

September 24, 1998

SITE SPECIFIC SAMPLING AND ANALYSIS PLAN
COZZI IRON AND METAL, INC.
CHICAGO, ILLINOIS
EPA ID NO. ILD047581335

The following constitutes the Site-Specific Field Sampling and Analysis Plan (SAP) for the waste, soil, surface water and sediment sampling to be performed at three Cozzi Iron and Metal, Inc., (Cozzi) facilities in Chicago, Illinois. These three facilities are:

2500 South Paulina Street (EPA ID No. ILD047581335);
9331 South Ewing Street; and
1509 West Cortland Street.

Cozzi operates a total of seven facilities in the Chicago area. However, based on prior RCRA and Toxic Substances Control Act (TSCA) site inspections, the following four facilities were determined not to warrant sampling at this time:

3200 East 96th Street;
3151 South California Street;
2232 South Blue Island Avenue; and
350 North Artesian Avenue.

Sampling activities will be initiated on or about September 29, 1998, and are expected to continue for approximately four days. The schedule outlined in this SAP may change due to variables (e.g., weather, equipment related delays) associated with field sampling work.

Determination of potential contaminants at the Cozzi facilities is based on available information regarding automobile shredder facilities, RCRA site inspections conducted on August 4 and 5, 1998, and the TSCA site inspections conducted the week of August 10, 1998.

This SAP will be used in conjunction with TechLaw's U.S. Environmental Protection Agency (U.S. EPA), Region 5-approved Generic Quality Assurance Project Plan (QAPP) for Sampling Operations, dated March 1995. Tentatively, TechLaw has selected the Curtis and Tompkins, Ltd., (CTL) laboratory in Berkeley, California, to perform the analyses required under this SAP.

Purpose and Objective

This SAP has been prepared to allow for the collection and analysis of waste, soil, surface water and sediment samples from three Cozzi facilities. The purpose of this sampling is to determine whether the wastes stored at Cozzi facilities contain hazardous constituents and whether hazardous materials have impacted the environmental media at the Cozzi facilities. Hazardous constituents potentially present at the Cozzi facilities include heavy metals, petroleum

The ferrous materials that are separated out at the rail yard facility are shipped back to the shredding facility for further processing. It does not appear that Cozzi attempts to separate materials from each of the four shredding facilities to ensure that materials from each of the facilities goes back to the facility where it originated. At the shredding facilities, the ferrous materials from the rail yard facility, which reportedly contains 75 to 85 percent metal, are stored in piles on the ground. The ferrous materials are reprocessed separately from new materials in the shredder. The non-ferrous portions of this second cycle material contain 2 to 5 percent non-ferrous metals (i.e., 95 to 98 percent autofluff). Cozzi then transports the piles back to the rail yard facility for final processing.

Waste Sampling

Waste samples will be collected from two Cozzi facilities.

- **2500 South Paulina Street**
  One waste sample will be collected from the 1,000- to 2,000-gallon aboveground storage tank (AST) that contains waste oil at Yard No. 1 using a new disposable bailer. The waste will be placed into one 4-ounce glass jar and one 1-Liter amber glass jar. At Yard No. 2, a waste sample will be collected, if possible, using a ponar dredge from the sewer that receives hydraulic oil waste from the metal shear. The waste will be placed into one 4-ounce glass jar and one 1-Liter amber glass jar. A waste sample will also be collected from the concrete containment drain in the shear hydraulic pump room using a stainless steel spoon. The waste will be placed into one 4-ounce glass jar and one 1-Liter amber glass jar. A cut-off disposable bailer will be used to collect a sample from the waste gasoline tank in Yard 10. If it appears that the gasoline contains significant quantities of water (i.e., that the gasoline is a waste) a sample of the gasoline will be collected in a 4-ounce glass jar. This sample, if collected, will be transported by surface vehicle to the U.S. EPA Central Regional Laboratory for flash point testing. Under no circumstances will this sample be shipped by air courier.

- **9331 South Ewing Street**
  One waste sample will be collected from the sludge in the abandoned clarifier using a ponar dredge. The waste will be placed into two 4-ounce glass jars. A waste sample will be collected from a pile of visually contaminated oil dry in the site maintenance facility using a stainless steel spoon. Currently, this material is being disposed as non-hazardous solid waste. The waste will be placed into two 4-ounce glass jars.

The samples will be analyzed for the constituents shown in Table 1 using the methods shown in Table 2. These analyses were selected based on knowledge of the process that generated the waste and consultation with the U.S. EPA Technical Leads, Mr. George Opek and Mr. Ken Zolnierczyk.

After sample collection, all of the soil samples will be packaged and shipped to CTL in Berkeley, California, in accordance with the shipping and custody procedures outlined in the TechLaw U.S. EPA, Region 5-approved Generic QAPP. If the EnCore™ devices cannot be used to collect the soil samples, the soil samples will be collected in 4-ounce jars that are packed so that no headspace is present.

The physical description and depth of collection for each soil sample will be recorded in the field log book. Sample times, locations and requested laboratory analyses also will be recorded in the field log book and on the COC form. Sample labels and sample tags will be completed and attached to the sample containers in accordance with the TechLaw U.S. EPA, Region 5-approved Generic QAPP. A summary of soil sample locations, numbers and field/analytical parameters is presented in Table 1. Proposed analytical methods for the soil samples are presented in Table 2.

Sediment Sampling

Sediment samples will be collected from the facility located at 1509 Courtland Street. Tentatively, one to two sediment samples will be collected from the bottom sediments of the settling pond. The depth of the settling pond is unknown. The settling pond is surrounded by vegetation and debris, and the banks of the settling pond are covered with oily residues; thus, collecting sediment samples from the settling pond may be difficult.

If the sediments are readily accessible and not covered by more than 6 inches of surface water, sediment samples will be collected using a pre-cleaned plastic spoon to transfer the sediment material directly into the sample container. If the sediments are covered by more than approximately 6 inches of surface water, a cut-off disposable bailer will be used to collect the sample. The sampling procedure to be used will consider the field conditions (e.g., grain size, depth of water, sediment compactness, etc.) at the time of sampling. Sediment samples to be analyzed for VOCs will be collected using an EnCore™ sampling device in accordance with SW-846 Method 5035 following the attached Draft TechLaw SOP. If the EnCore™ devices cannot be used to collect the sediment samples, the sediment samples will be collected in 4-ounce jars that are packed so that no headspace is present.

The sediment samples will be packaged and shipped to CTL in Berkeley, California in accordance with the shipping and custody procedures outlined in the TechLaw U.S. EPA, Region 5-approved Generic QAPP. Sediment samples will be analyzed for the constituents shown in Table 1 using the methods shown in Table 2.

The physical description and depth of collection for each sediment sample will be recorded in the field log book. Sample times, locations and requested laboratory analyses also will be recorded in the field log book and on the COC form.

which are to contain samples to be analyzed for VOCs, prior to sample collection. TechLaw personnel will handle and ship the trip blanks in the same manner as all aqueous VOC samples. The trip blanks will be analyzed in the laboratory for VOCs.

One matrix spike/matrix spike duplicate (MS/MSD) sample will be collected for every 20 samples of each matrix collected. Because there will be no more than 20 samples collected for each matrix, one MS/MSD sample will be collected for each media being sampled (i.e., waste, soil, sediment and surface water), which will be analyzed for the same constituents as those samples of the same matrix.

Laboratory quality control requirements are outlined in the TechLaw U.S. EPA, Region 5-approved Generic QAPP. A summary of the QC sample requirements is presented in Table 4, and the analytical methods that will be used for the QC samples are listed in Table 2.

Sample Collection, Preparation, Custody and Shipment

The samples collected by TechLaw will remain in the custody of TechLaw field personnel until relinquished for shipment to the analytical laboratory. The sample bottles will be appropriately labeled (i.e., label affixed directly on the face of the bottle) and tagged with U.S. EPA sample tags. A COC form will accompany the samples from the point of origin to the analytical laboratory. The samples will be collected in the containers specified in Section 6 of the U.S. EPA, Region 5-approved, TechLaw Generic QAPP. All samples will be collected in "certified-clean" sample containers obtained from CTL. All samples will be shipped via overnight carrier in coolers with affixed custody seals to Curtis and Tompkins, Ltd, 2323 5th Street, Berkeley, California, Attention: Carol Wortham at (510) 486-0900 (extension 101) and notification provided by facsimile at (510) 486-0532.

Investigation Derived Waste Management

It is not expected that any hazardous investigation derived waste will be produced. All disposable sampling equipment will be disposed as non-hazardous solid waste.

Analytical Requirements

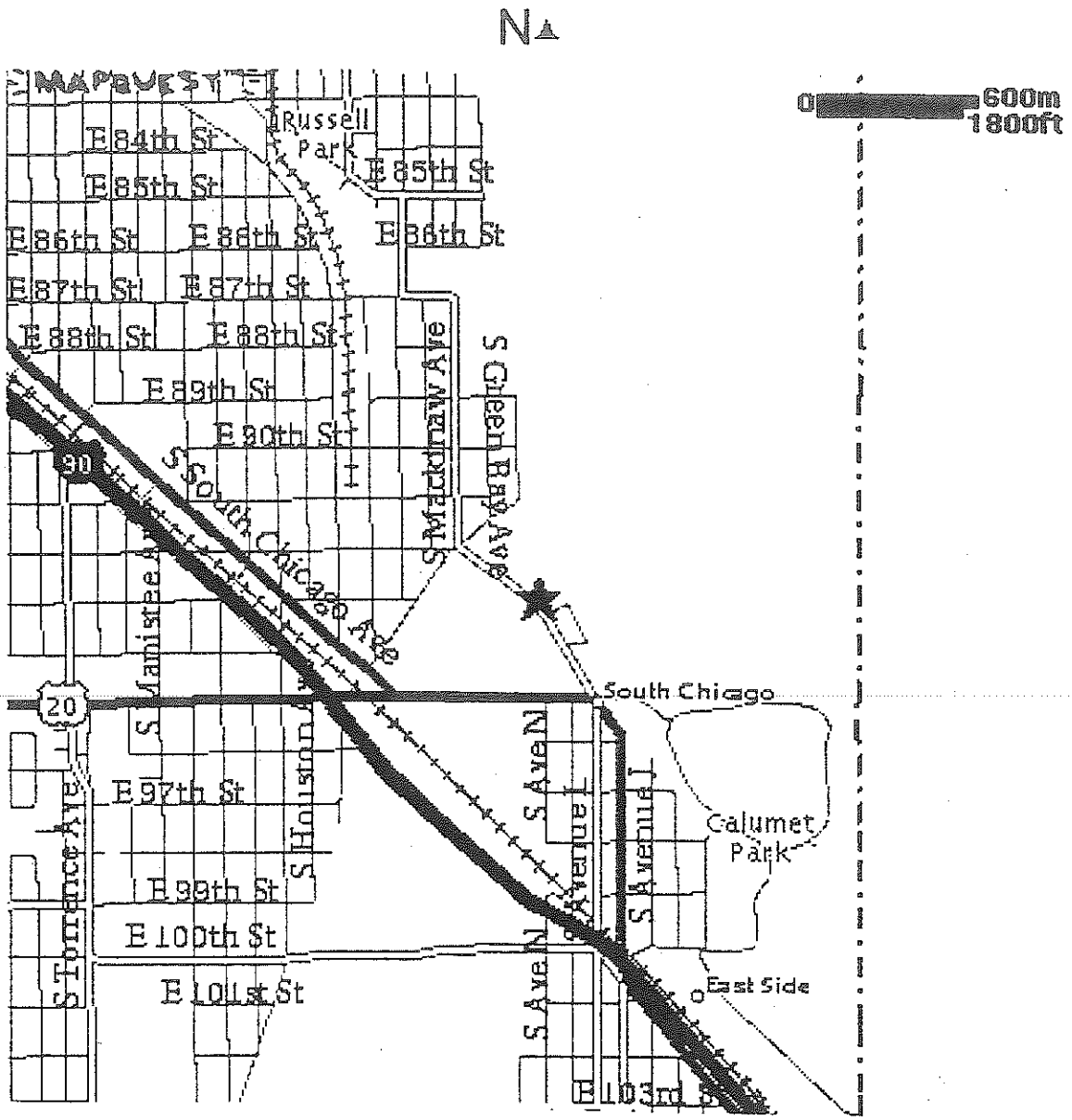
The analytical and QA/QC requirements, including calibration procedures and frequencies, for the laboratory are outlined in the U.S. EPA, Region 5-approved, TechLaw Generic QAPP. Analytical reporting limits are based on SW-846 requirements. The analytical methods and sample container, preservation and holding time requirements are shown in Table 2.

Data Validation

Analytical data will be generated by the laboratory and provided to TechLaw in conformance with Contract Laboratory Program-like reporting protocols. At the request of the U.S. EPA

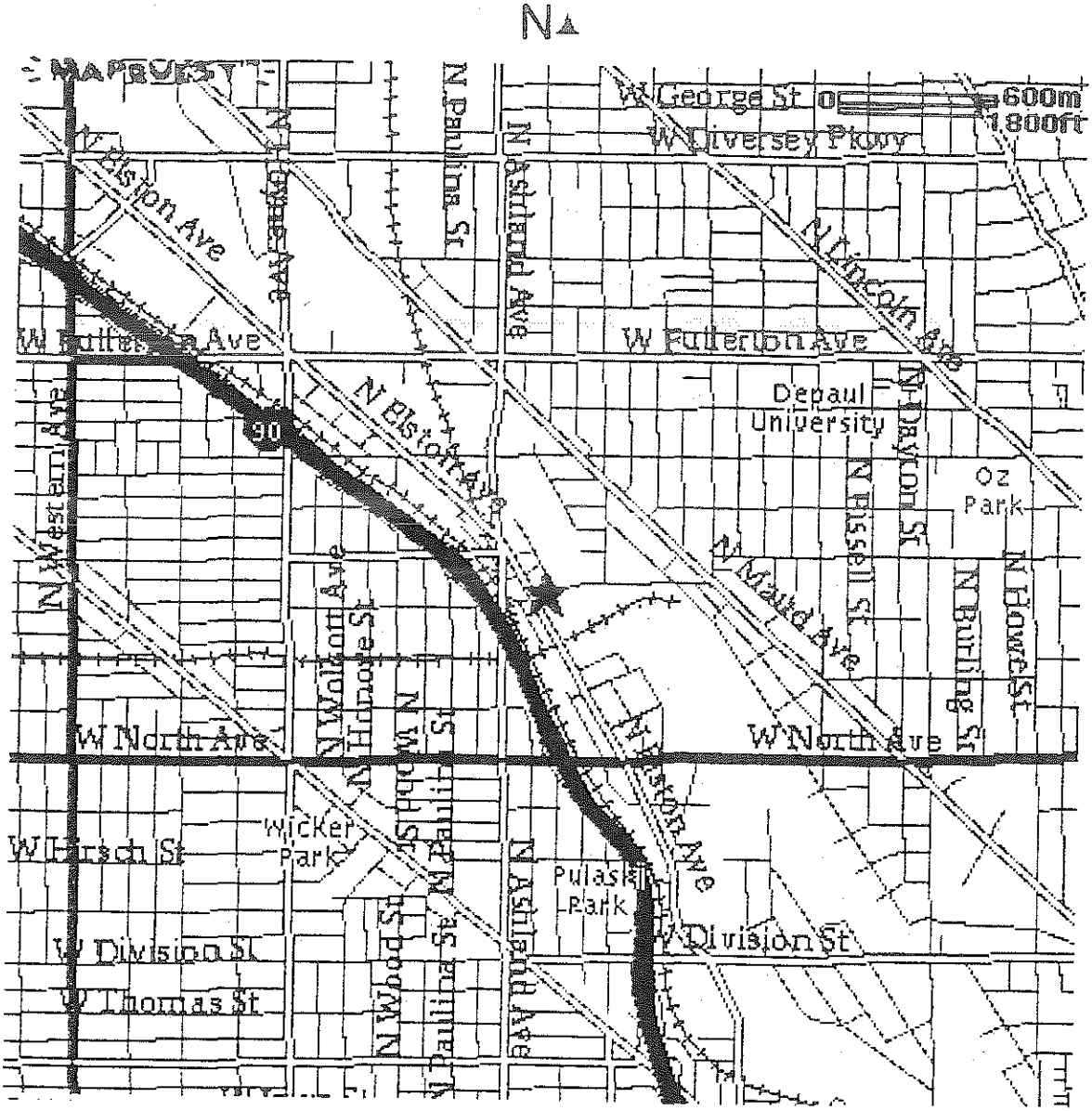
FIGURE 1

SITE VICINITY MAPS



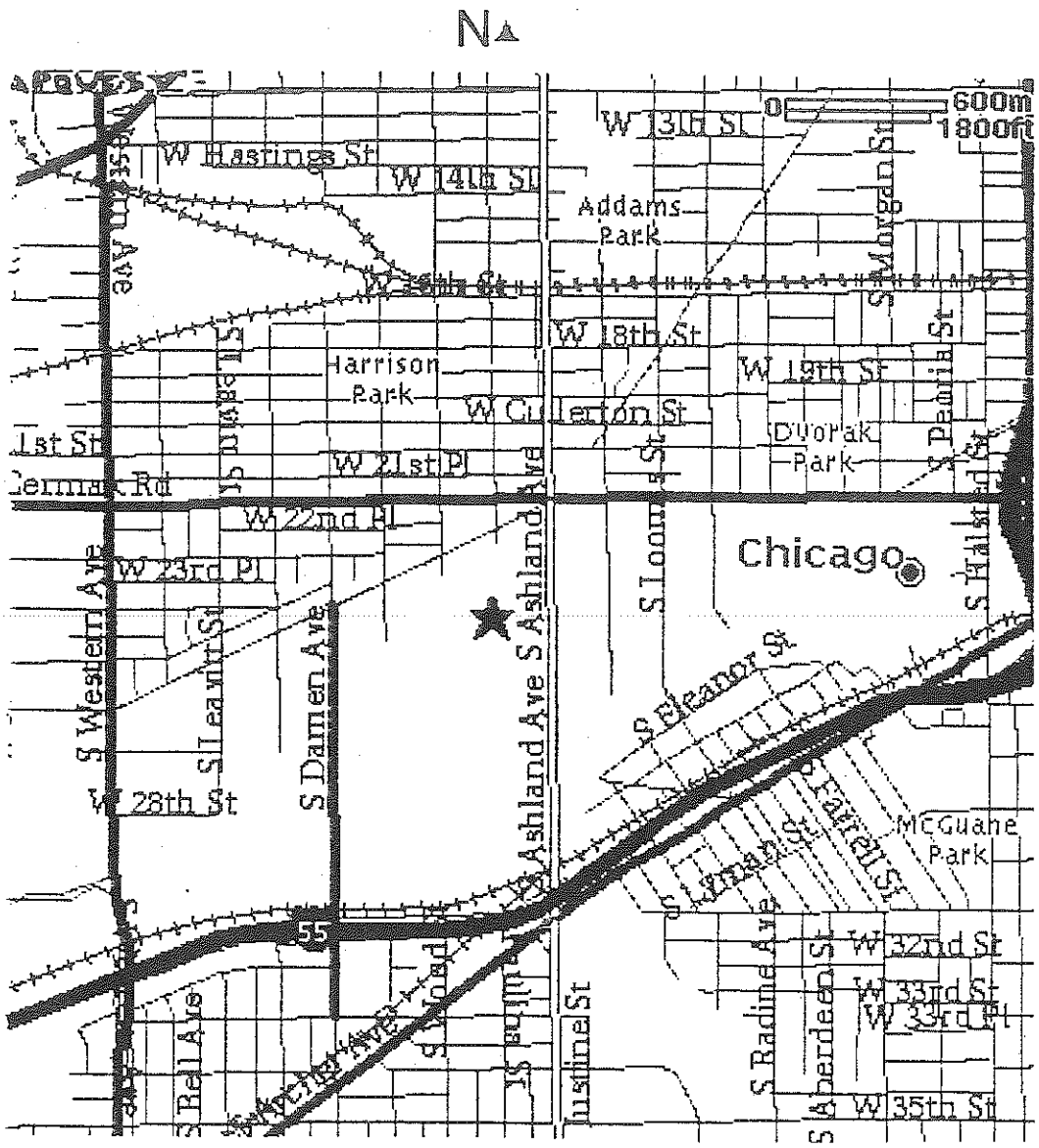
Vicinity Map
9331 South Ewing Street

(Modified from Yahoo! Maps and Driving Directions at http://maps.yahoo.com)



Vicinity Map
1509 West Cortland Street

(Modified from Yahoo! Maps and Driving Directions at http://maps.yahoo.com)



Vicinity Map
2500 South Paulina Street

(Modified from Yahoo! Maps and Driving Directions at http://maps.yahoo.com)

FIGURE 2

SAMPLE LOCATION MAPS

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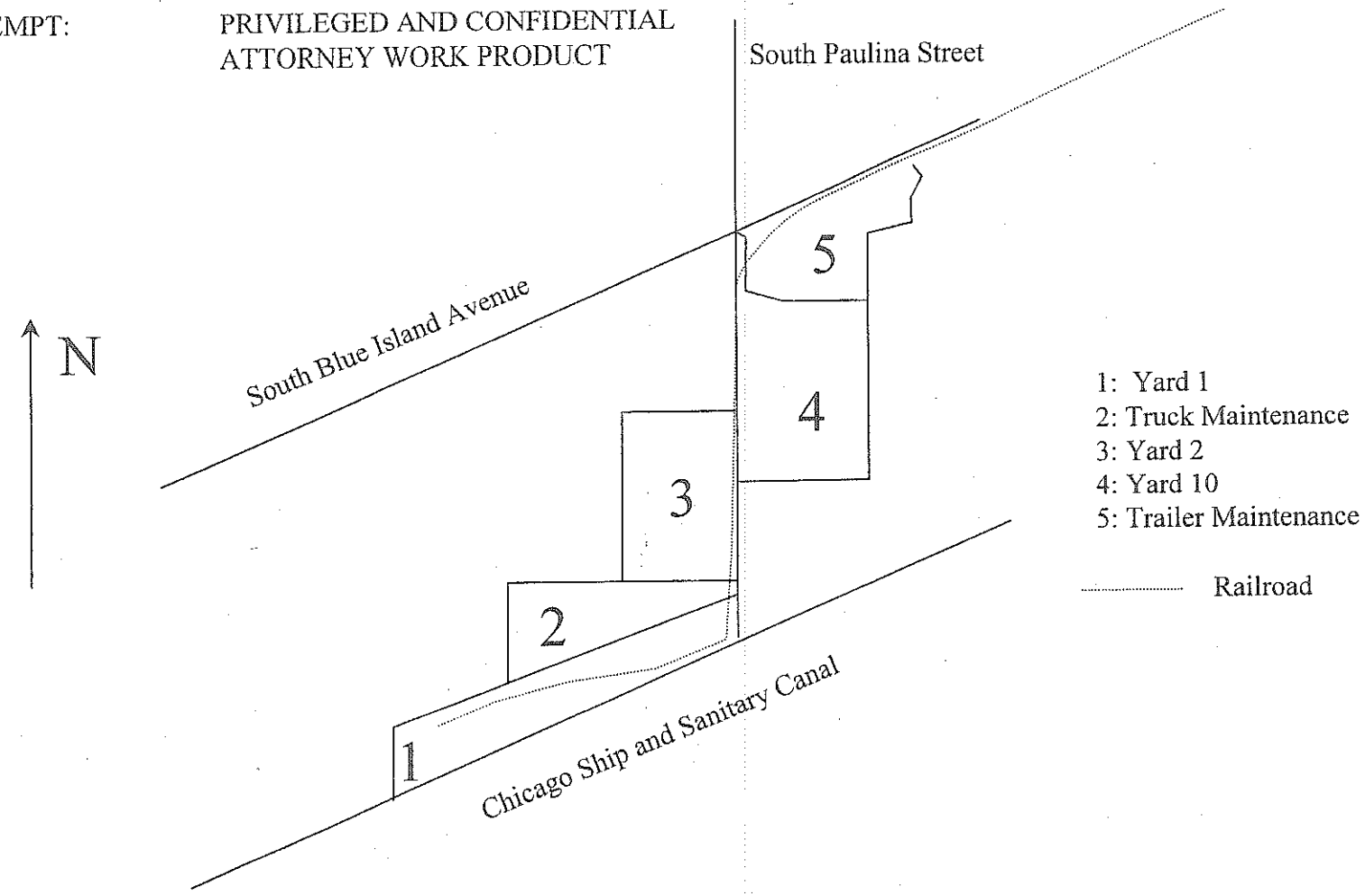

Layout of Cozzi Iron and Metal
2500 South Paulina Street
Chicago, Illinois

Not to Scale

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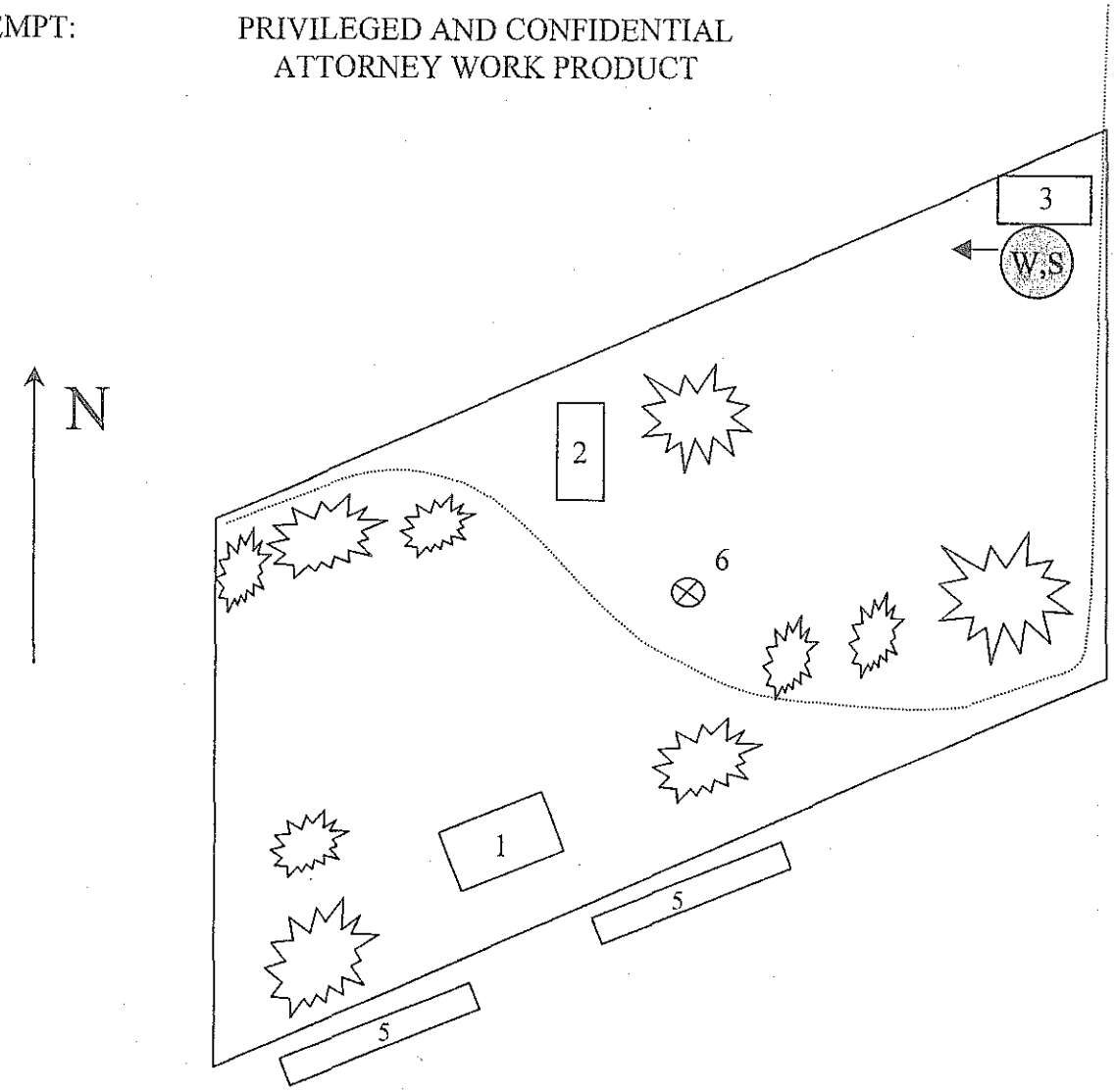
ATTORNEY WORK PRODUCT



1: Non-ferrous shredder
2: Baler
3: Mechanical Maintenance
4: Scrap Piles
5: Barges
6: Manhole where stormwater samples were collected

Sampling Location
W=Waste S=Soil
SS=Soil/Sediment
SW=Surface Water

Railroad

Scrap Pile

Not to Scale

Layout of Yard 1
Cozzi Iron and Metal
2500 South Paulina Street
Chicago, Illinois

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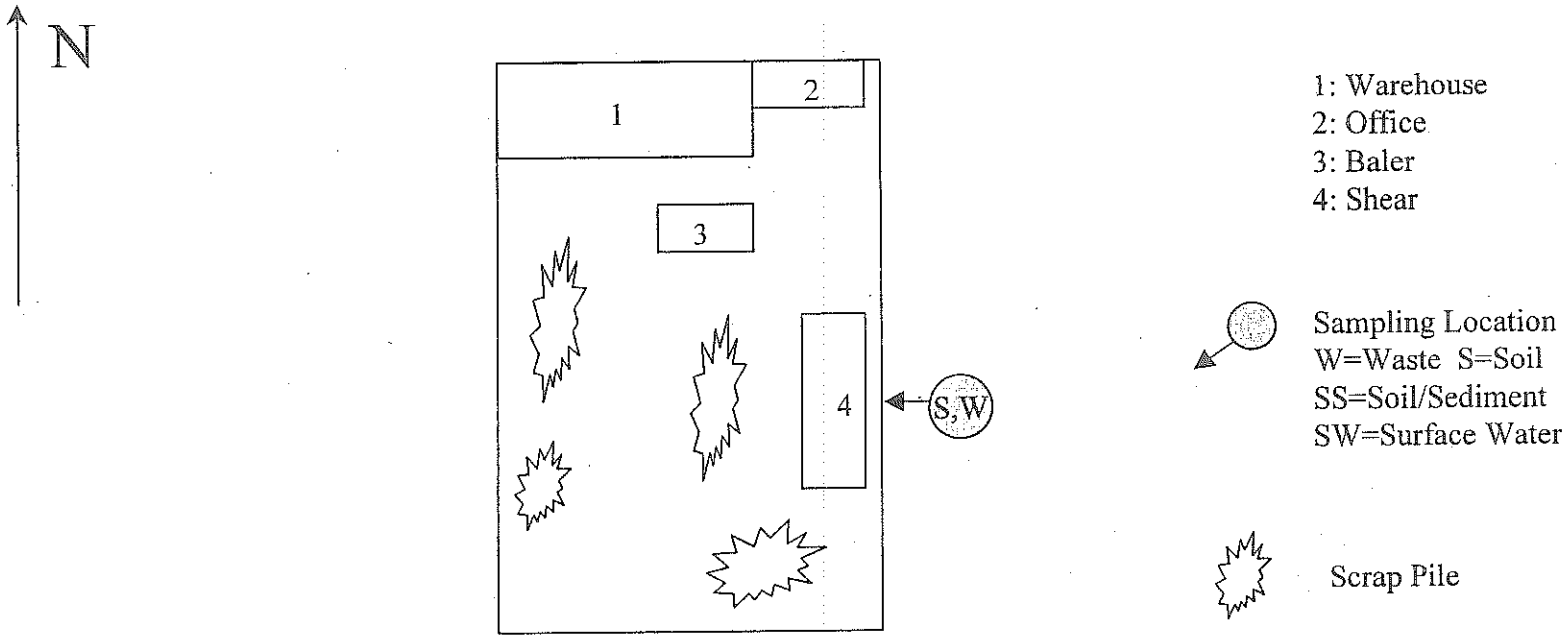

Layout of Yard 2
Cozzi Iron and Metal
2500 South Paulina Street
Chicago, Illinois

Not to Scale

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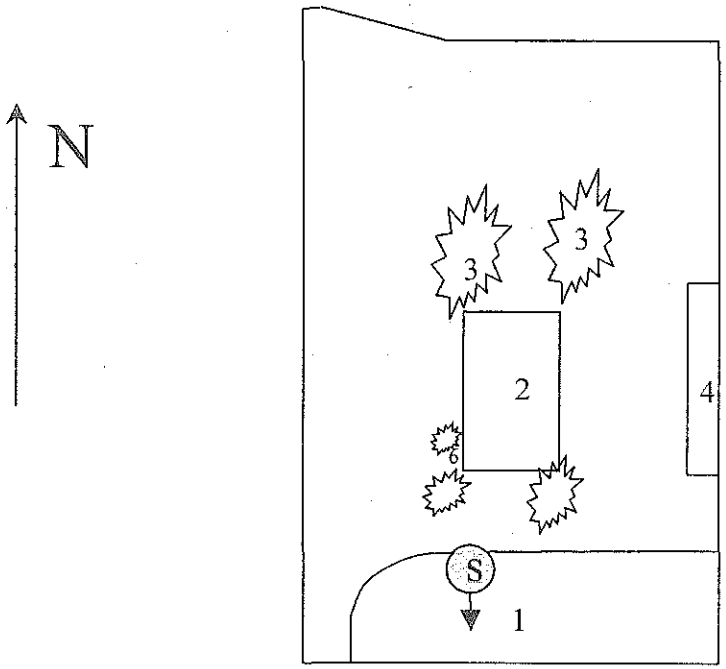
ATTORNEY WORK PRODUCT



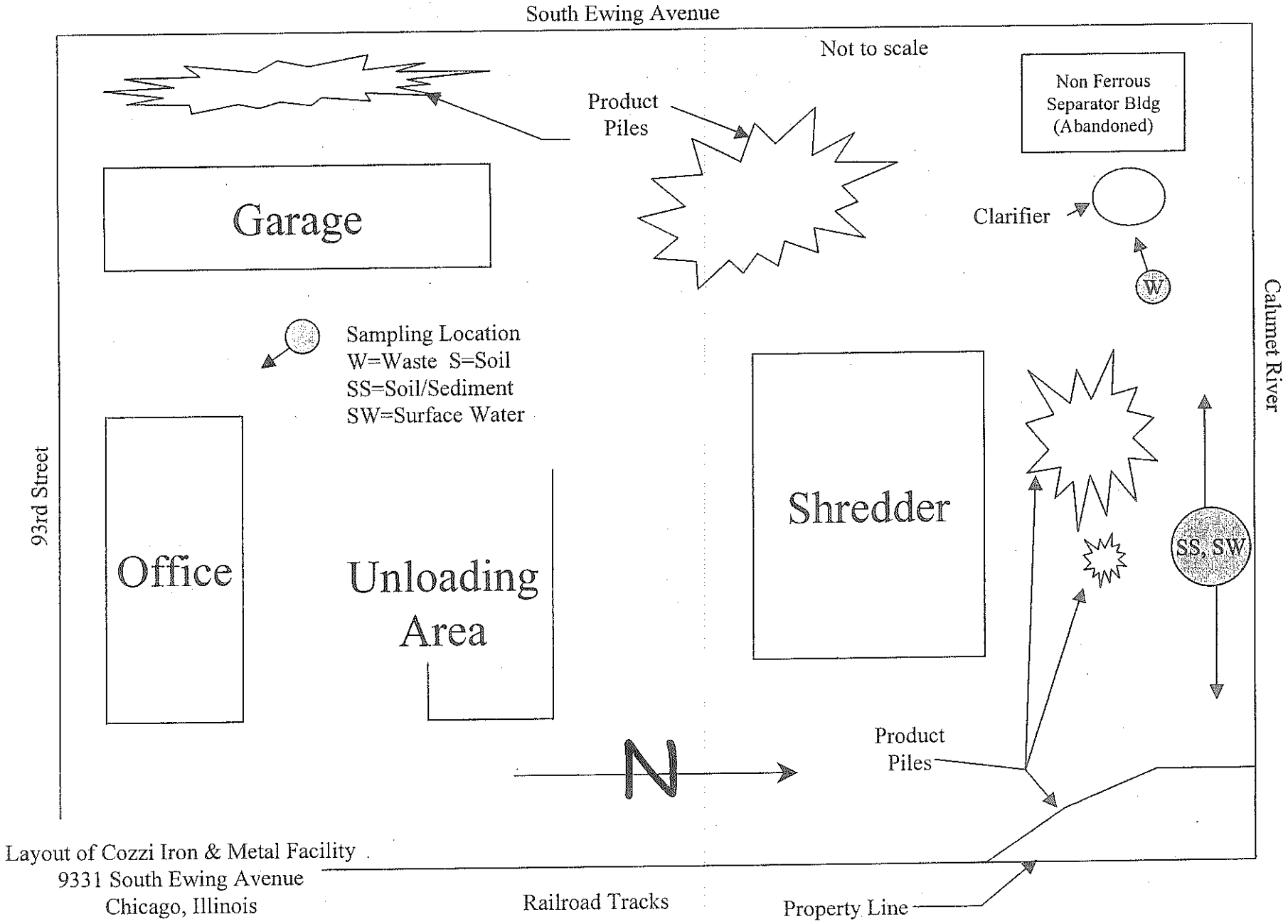
1: Uncontrolled Dump
2: West Shredder
3: Raw Material (white goods, etc.)
4: Crushed cars
5: Ferrous Scrap
6: Non-Ferrous/ASR

Sampling Location
W=Waste S=Soil
SS=Soil/Sediment
SW=Surface Water

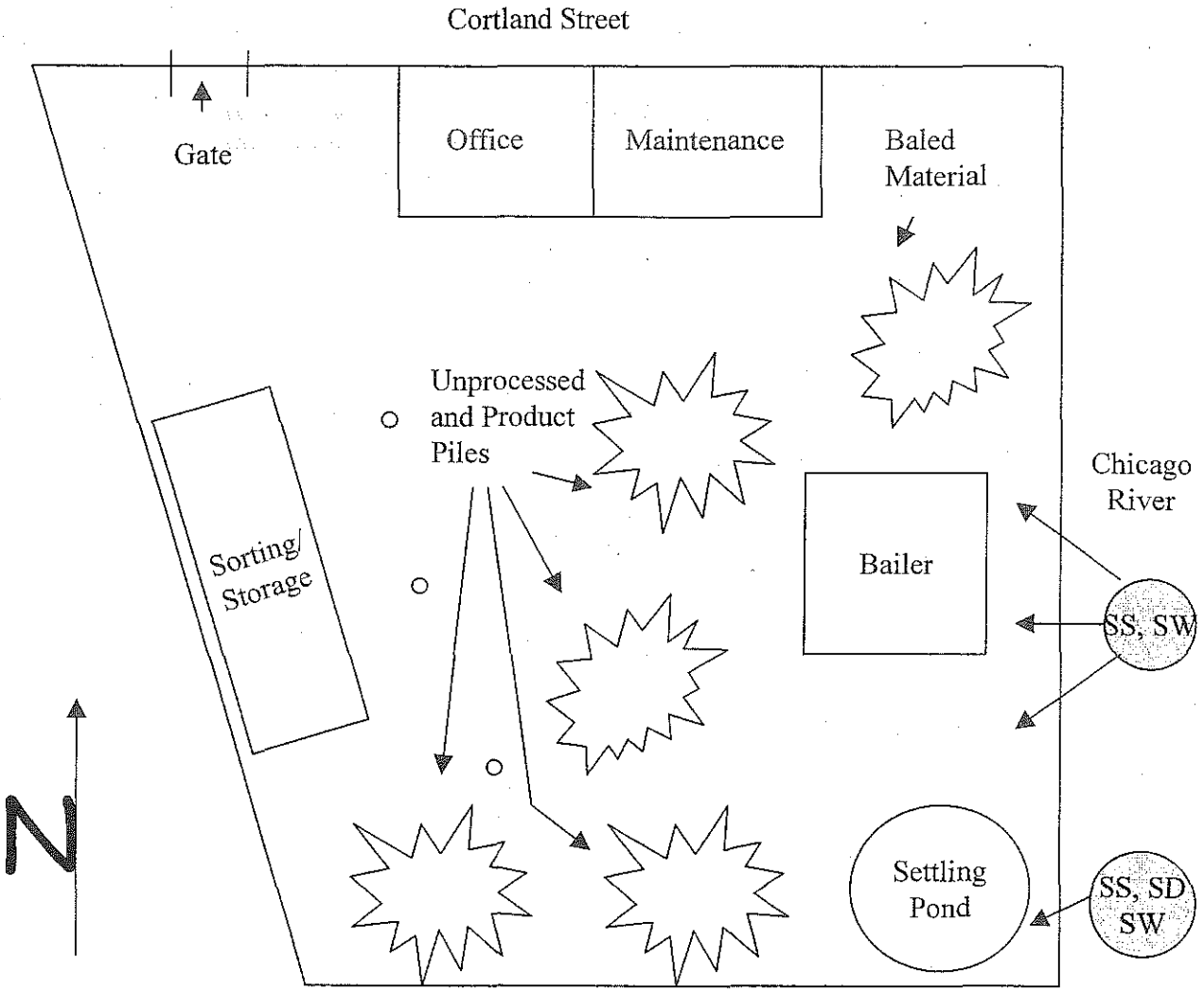
Scrap Pile

Layout of Yard 10
Cozzi Iron and Metal
2500 South Paulina Street
Chicago, Illinois

Not to Scale



Layout of Cozzi Iron & Metal Facility
9331 South Ewing Avenue
Chicago, Illinois



Sampling Location
W=Waste S=Soil
SS=Soil/Sediment
SW=Surface Water
SD=Sediment

Layout of Cometco Corporation
1509 West Corporation
Chicago, Illinois

Not to scale

TABLE 1

SAMPLE COLLECTION SUMMARY

TABLE 1

SAMPLE COLLECTION SUMMARY

Cozzi Facility	Area	Matrix[1]	No. of Locations	Sample Depths	Field Parameters	Analytical Parameters [2]
2500 Paulina Street	Yard No. 1	Waste	1	NA	PID Screening - VOCs	TCLP Metals and VOCs, SVOCs, Igitability
	AST	Soil	1	0 - 6"	PID Screening - VOCs	TCLP Metals and VOCs, SVOCs
	Yard No. 2	Waste	1	NA	PID Screening - VOCs	TCLP Metals and VOCs, SVOCs, Ignitability
	Metal Shear	Soil	1	0 - 6"	PID Screening - VOCs	TCLP Metals and VOCs, SVOCs
	Hydraulic Pump Room	Waste	1	NA	PID Screening - VOCs	TCLP Metals and VOCs, SVOCs
	Yard No. 10	Soil	2 - 3	0 - 6"	PID Screening - VOCs	TCLP Metals and VOCs, SVOCs
9331 South Ewing Street	Clarifier	Waste	1	NA	PID Screening - VOCs	TCLP Metals and VOCs, SVOCs, Ignitability
	Pooling Water Adjacent	Soil/Sed	1 - 2	0 - 6"	PID Screening - VOCs	TCLP Metals and VOCs, SVOCs
	to the Chicago River	SW	1	Surface	None	TCLP Metals and VOCs
1509 West Cortland Street	Pooling Water Adjacent	Soil/Sed	1 - 2	0 - 6"	PID Screening - VOCs	TCLP Metals and VOCs, SVOCs
	to the Chicago River	SW	1	Surface	None	TCLP Metals and VOCs
	Settling Pond	Soil/Sed	1 - 2	0 - 6"	PID Screening - VOCs	TCLP Metals and VOCs, SVOCs
		Sediment	1 - 2	NA	PID Screening - VOCs	TCLP Metals and VOCs, SVOCs
		SW	1 - 2	NA	None	TCLP Metals and VOCs

[1] For surface water, only if present.

[2] TechLaw will be prepared to collect samples for all of these analyses. As described in the accompanying text, the actual parameters will be finalized based on field conditions.

NA = Not Applicable
PID = Photoionization Detector
Sed = Sediment
SVOCs = Semivolatile Organic Compounds
SW = Surface Water
TCLP = Toxicity Characteristic Leaching Procedure
VOCs = Volatile Organic Compounds

TABLE 2

ANALYTICAL METHODS AND SAMPLE CONTAINER, PRESERVATION AND HOLDING TIME REQUIREMENTS

TABLE 2

ANALYTICAL METHODS AND SAMPLE CONTAINER, PRESERVATION AND HOLDING TIME REQUIREMENTS

Parameters	Analytical Method	Matrix	Holding Time	Container	Preservative
TCLP VOCs	SW-846 Method 5035 SW-846 Method 8260B	Soil, Sediment Waste Surface Water	48 Hours to Extraction 14 Days 14 Days	3 EnCore™ sampling devices 2 4-ounce glass jars with SC 2 40-ml vials with septum caps	Cool to 4° C Cool to 4° C Cool to 4° C
SVOCs	Prep: SW-846 Method 3510C Anal: SW-846 Method 8270C Prep: SW-846 Method 3550C Anal: SW-846 Method 8270C	Surface Water Waste, Soil, Sediment	7 Days to Extraction, 40 Days to Analysis 14 Days to Extraction, 40 Days to Analysis	2 1-liter amber glass bottles 2 4-ounce glass jars with SC	Cool to 4° C Cool to 4° C
TCLP Metals	Prep: SW-846 Method 1311 Anal: SW-846 Method 6010B Prep: SW-846 Method 1311 Anal: SW-846 Method 6010B	Waste, Soil, Sediments Water	6 months 6 months	2 4-ounce glass jar 1 1000-ml poly bottle	Cool to 4° C Cool to 4° C
TCLP Mercury	Prep: SW-846 Method 1311 Anal: SW-846 Method 7471A Prep: SW-846 Method 1311 Anal: SW-846 Method 7471A	Waste, Soil, Sediments Water	28 days 28 days	2 4-ounce glass jar (same container as metals) 1 1000-ml poly bottle (same container as metals)	Cool to 4° C Cool to 4° C
Ignitability	Prep: EPA 1010 Anal: EPA 1010	Waste	No Recommended Holding Time	4-ounce glass jar	Cool to 4° C

HCl = Hydrochloric Acid
ml = milliliter
SC = Septum Cap
SVOCs = Semivolatile Organic Compounds
TCLP = Toxicity Characteristic Leaching Procedures
VOCs = Volatile Organic Compounds

TABLE 3

SAMPLING EQUIPMENT TO BE USED TO COLLECT ENVIRONMENTAL SAMPLES

TABLE 3

SAMPLING EQUIPMENT TO BE USED TO COLLECT ENVIRONMENTAL SAMPLES

Sample Media	Sampling Equipment
Waste	Disposable plastic beaker attached to a stainless steel pole or a stainless-steel Petite Ponar® or pole-mounted Ekman® dredge deployed from above or disposable bailer or pre-cleaned spoon (plastic or metal)
Soil	VOC: EnCore™ sampler (25 gram) if possible, 4-ounce glass jar otherwise All Others: Pre-cleaned spoon Sample location cleared with shovel or pickax
Sediment	VOC: EnCore™ sampler (25 gram) if possible, 4-ounce glass jar otherwise All Others: Pre-cleaned spoon
Surface Water	Disposable plastic beaker attached to a stainless steel pole if necessary or disposable bailer

VOC = Volatile Organic Compounds

TABLE 4

QUALITY CONTROL SAMPLE COLLECTION SUMMARY

TABLE 4

QUALITY CONTROL SAMPLE COLLECTION SUMMARY

QUALITY CONTROL SAMPLE	REQUIREMENTS	CONTAINER	PRESERVATIVE
Trip Blanks	1 per cooler	2 40-ml vials with septum caps	HCl
Field Blanks	1 per type of sampling equipment	2 40-ml vials with septum caps, 1-Liter amber 1-Liter poly	HCl for 40-ml vials, HNO3 for 1-Liter poly
Field Duplicates	1 per matrix for every 10 samples collected	Variable depending on analysis requested and matrix. For specific information refer to Table 2.	Water: Variable depending on the analysis requested and matrix of sample Soil/Sediment/Waste: None
MS/MSDs	1 per matrix for every 20 samples collected	Water: 2 40-ml vials with septum lids, 1 1-Liter amber, 1 1-Liter poly Soil/Sediment/Waste: 2 4-ounce jars Waste: 1-Liter amber and 1 4-oz jar (Organic analysis only for all media)	Water: HCl for 40-ml vials HNO3 for poly Soil/Sediment/Waste: None

HCl = Hydrochloric Acid
HNO3=Nitric Acid
ml = milliliter
MS/MSDs = Matrix Spike/Matrix Spike Duplicate

TABLE 5

SAMPLE COLLECTION SUMMARY

TABLE 5

SAMPLE COLLECTION SUMMARY

MATRIX	NUMBER OF SAMPLES	MS/MSD	ANALYSES	CONTAINERS (PER SAMPLE)[2]
Soil	14	2	TCLP VOC TCLP Metals SVOC	Three 25-gram EnCore[5] One 4-ounce glass for Metals/SVOC
Waste Liquids[4]/ Sludge	5	2	TCLP VOC TCLP Metals SVOC Flash Point	One 4-ounce glass and One 1-Liter amber glass for VOC/SVOC/Metals One 4-ounce glass (sludge) or One 250-ml Poly (liquids)
Water	5	1	VOC Metals	3 40-ml VOC vials[1] 1 1000-ml Poly
Blanks[3]	10 3		VOC Metals	3 40-ml VOA vials 1 1000-ml Poly
Totals				48 EnCore 51 40-ml VOC vials (12 prefilled for travel blanks) 10 1000-ml Poly 7 250-ml Poly 55 4-ounce glass (some for moisture content)

(1) Six additional vials for MS/MSD
(2) TechLaw will supply the EnCores, Laboratory to supply container for %moisture determination
(3) Laboratory to supply four sets of VOC vials filled with analyte-free water as travel blanks, equipment blanks will be filled in field.
(4) Waste Liquids will be motor oil
(5) If soils cannot be sampled with EnCore, use a 4-ounce glass jar; also requires sample aliquot for moisture content

ATTACHMENT

DRAFT TECHLAW STANDARD OPERATING PROCEDURES FOR SAMPLING FOR VOLATILE ORGANIC COMPOUNDS IN SOIL PROCEDURES SAMPLING WITH A SYRINGE AND PRE-PRESERVED VIALS OR WITH AN ENCORE™ DEVICE

TECHLAW ENVIRONMENT, HEALTH AND SAFETY PRACTICE
STANDARD OPERATING PROCEDURES

SAMPLING FOR VOLATILE ORGANIC COMPOUNDS IN SOIL PROCEDURES - SAMPLING WITH A SYRINGE AND PRE-PRESERVED VIALS OR WITH AN EN-CORE DEVICE

SOP Number: 07-08-00
Effective Date: 09/21/98

Technical Approval: _____ Date: _____

QA Management Approval: _____ Date: _____

SOP Description

This Standard Operating Procedure (SOP) describes the procedure to be used by TechLaw Environment, Health and Safety (EH&S) staff when collecting soil samples for volatile analysis in accordance with the required preservation procedures described in the June 13, 1997 Update III to SW-846.

Scope

This procedure is appropriate for collecting unconsolidated soils and other relatively fine-grained solids samples. This SOP applies to the collection of both low and high level contaminated soil samples. It should be noted that the United States Environmental Protection Agency (EPA) recommends that all soil samples for volatile analysis be preserved in some manner. However, some states have not approved the following procedures.

Introduction

Update III of SW-846 deleted the "low concentration of volatiles in soil" sample collection/laboratory procedure that involved filling an unpreserved sample container to capacity, leaving no headspace available to collect volatile organic vapors. This traditionally implemented procedure was replaced by procedures which use either specified equipment or matrix stabilizing preservatives (methanol or sodium bisulfite) to reduce volatilization of the VOCs in the soil sample.

This method applies to the collection of soil samples. The method may be applied to sediment or waste samples, if appropriate.

Two sample collection procedures are described in this SOP. The first involves collecting soil samples in prepreserved containers. Low level samples are preserved with sodium bisulfite. High level samples are preserved with methanol. A methanol preserved sample should always be collected when sampling for low level contamination. Additionally, if the extent of contamination is unknown, both sodium bisulfite and methanol preserved samples must be collected.

- **Balance** - capable of weighing the soil sample and the sample collection vial to the nearest 0.01 gram. The balance must be capable of weighing a mass of up to 200 grams to accommodate the maximum expected sample container/preservative/soil weights.

- **Balance weights** - reference weights used to calibrate the balance in the field.

- **Pre-prepared sample containers** - laboratory supplied vials containing methanol (high level) or sodium bisulfate (low level), and surrogates appropriate for preservation and analysis by EPA Method 5035.

- **Moisture-content sample containers** - precleaned 40 - 60 ml, or smaller, empty sample containers.

- **Field Logbook** - to record data.

Pre-Sampling Procedures

- Place balance on a level surface and calibrate according to the manufacturers specifications.

- Remove the laboratory supplied sample container which contains the appropriate preservative (sodium bisulfate for low level, methanol for high level) and surrogates from the cooler where it is being maintained at 4°C. Inspect the container to assure that it is sealed properly, is in good condition, and is affixed with a label or tag indicating a laboratory identification and container weight. The container weight indicated by the laboratory should reflect the weight of the container including the lid, septa, label, preservative, and surrogate that have been added to the container.

- Leaving the container sealed, place the sample container on the balance and record, in the logbook, the weight of the laboratory supplied sample container to the nearest 0.01 grams. If the container does not weigh within 0.2 grams of the laboratory recorded container weight, discard the container, retrieve another one from the cooler and repeat comparison as above.

- Place the container back in the cooler.

- Weigh the container. If the container weight reflects that less than 4.5 grams of soil, or more than 5.5 grams of soil were added to the container, the sample and container should be discarded and another sample should be collected. Additionally, the soil plug must be fully immersed in the preservative to eliminate the loss of volatiles to headspace.

- Fill out label and/or sample tag and attach to the container.

- Place in cooler and maintain sample at 4 °C.

- Package label and prepare for shipment as specified in SOP No. 02-05-XX.

- Using a stainless steel or disposable plastic spoon, collect additional sample and fill an unpreserved, laboratory-supplied sample container to capacity (i.e., with no head space) to be used by the laboratory to determine the moisture content of the sample. A 2-ounce or 4-ounce sample container is acceptable for this sample. Note: If soil from the sampling location will be collected in other sample containers for analysis for parameters other than VOCs, one of these other sample containers may suffice for the laboratory determination of moisture content if the sample container is filled to capacity with no head space.

For the determination of VOCs in soil using the En-core soil sampler:

- Remove the En-core sampler from protective wrap/sample bag.

- Attach the En-core sampler to En-core T-handle. The En-core sampler should have the plunger in the down position.

- With the En-core sampler's plunger in the down position, push the En-core sampler into the soil to be sampled and collect the sample with minimal disturbance. If the soil contains debris that inhibits the collection in the above manner, a decontaminated stainless steel spoon can be used to fill the En-core sampler. The soil must be tightly packed in the En-core if this procedure is to be used. This procedure has been discussed with both the EPA and the laboratory and is the accepted method when problem soil is encountered.

- Wipe the end of the En-core sampler with a clean paper towel to ensure that no debris is present on the threads where the cap attaches. Cap the En-core sampler and verify that cap is seated properly. If the cap is not attached properly, sample integrity is compromised.

- Fill out label and/or sample tag and attach to the En-core sampler.

SAMPLING FOR VOLATILE ORGANIC COMPOUNDS IN SOIL PROCEDURES - SAMPLING WITH A SYRINGE AND PRE-PRESERVED VIALS OR WITH AN EN-CORE DEVICE

A site-specific health and safety checklist/plan must be developed by the field team leader or designee and approved by the EH&S Health and Safety Director or designee prior to implementation in the field. This checklist/plan must be reviewed prior to beginning work.

Any deviation(s) from an approved site-specific health and safety checklist/plan must be documented in the field logbook.

Special care must be taken when handling carbonaceous soils for low level analysis. Low level analysis requires that the samples be preserved with sodium bisulfite, which will effervesce when carbonaceous soils are added to the container. This off gassing can cause sample containers to burst.

QA/QC

The balance must be calibrated in accordance with the manufacturer's instruction manual, prior to daily use. Thereafter, the balance is to be checked periodically against calibration weights that bracket the expected value of the sample(s).

In addition to adhering to the specific requirements of this sampling protocol and any supplementary site-specific procedures, the minimum QA/QC requirements for this activity are listed below.

Control of Deviations

When feasible, any departure from specified requirements must be justified and authorized by the field team leader prior to deviating from the requirements. Deviations are to be sufficiently documented in the field logbook to allow repetition of the activity as actually performed.

Verification

Verification activities are required, including surveillance and periodic record audits. These activities are to be documented in the field logbook and will become part of the completed project records.

Attachments

None at this time.

References

A.T. Kearney, Inc., Environment, Health and Safety Practice, Field Equipment Manufacturers' Instruction Manuals Handbook, Winter 1995.

A.T. Kearney, Inc., Environment, Health and Safety Practice, Health and Safety Program, Winter 1995.

U.S. Environmental Protection Agency, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Integrated Manual, SW-846 Update III, June 13, 1997.

U.S. Environmental Protection Agency, Clarification Regarding Use of SW-846 Methods Memorandum, August 7, 1998.

Sampling Plan for Stormwater Pond
Metal Management Midwest, Inc.
1509 West Cortland Street, Chicago, Illinois

Sampling Approach

USEPA's START contractor, Ecology & Environmental (E & E), previously has sampled the stormwater pond in the southeast corner of Metal Management Midwest, Inc.'s Cortland Street facility. Samples collected by E & E from soil surrounding the pond and water and sediment within the pond indicated the presence of volatile organic and semivolatile organic compounds, and metals in concentrations that generally did not exceed risk-based screening criteria; exceptions were benzo(a)pyrene and arsenic. Polychlorinated biphenyls (PCBs) were not detected at concentrations that exceeded analytical detection limits.

Based on inspections of the area immediately surrounding the pond and previous sampling activities by E & E in November 1998, four soil-sampling locations outside the pond and three sediment-sampling locations from inside the pond have been selected. The locations are presented on the attached figure. Data developed during the sampling activities will be used in conjunction with E & E's results to evaluate the pond area for environmental impacts.

Sampling Methodology

Hand-held instruments will be used to collect soil and sediment samples. The sampling equipment will be decontaminated prior to use and between samples and sampling locations, if dedicated sampling equipment is not used. Upon retrieval, samples will be placed in laboratory-prepared glass jars, preserved on ice and delivered to the laboratory for analyses.

Soil samples will be collected at ground surface (0 to 0.5 feet) and two feet below grade using hand-held sampling equipment. Should the surface soil sample exceed Tier 1 Industrial Remediation Goals under the Illinois Tiered Approach to Corrective Action Objectives (TACO, 35 IAC §742), the subsurface sample will be analyzed for those parameters exceeding the Tier 1 goal. Should Tier 1 goals be exceeded in the surface and subsurface soil samples, a Tier 2 analysis will be conducted to determine if additional data need be collected. In conjunction with the sampling activities, stained areas around the pond will be mapped visually in order to estimate the area impacted by staining.

In addition, three sediment samples will be collected from within the stormwater pond and composited for a single analysis. Approximate locations for sediment samples are present on the attached figure. Sediment samples will be collected using an extended dipper to reach sediment away from the pond shoreline. Care will be taken to collect sediment samples without breeching the liner system installed during construction of the pond.

Once a sufficient volume of sediment from the three indicated locations has been collected, aliquots from each of the three samples will be composited in a stainless-steel bowl, placed in laboratory-prepared jars, preserved on ice and delivered to the laboratory for analyses. VOC analysis will be conducted on one sediment grab sample to avoid volatilization that may occur during sample blending. One sediment sample will be selected for VOC analysis based on photoionization detector (PID) readings measured at the time of sample collection, or selected randomly if no PID readings are observed. Should the analysis reveal that Tier 1 industrial goal(s) are exceeded, a Tier 2 analysis will be conducted to determine if additional data need be collected.

Analytical Methods

Soil samples collected from around the pond and sediment samples collected and composited from within the pond will be analyzed for semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), and the eight RCRA metals (totals). One grab sediment sample will be analyzed for VOCs to avoid volatilization during blending of the composite sample. Analyses will follow USEPA's SW-846 methodologies.

Quality Assurance

Data quality will be assured by the following:

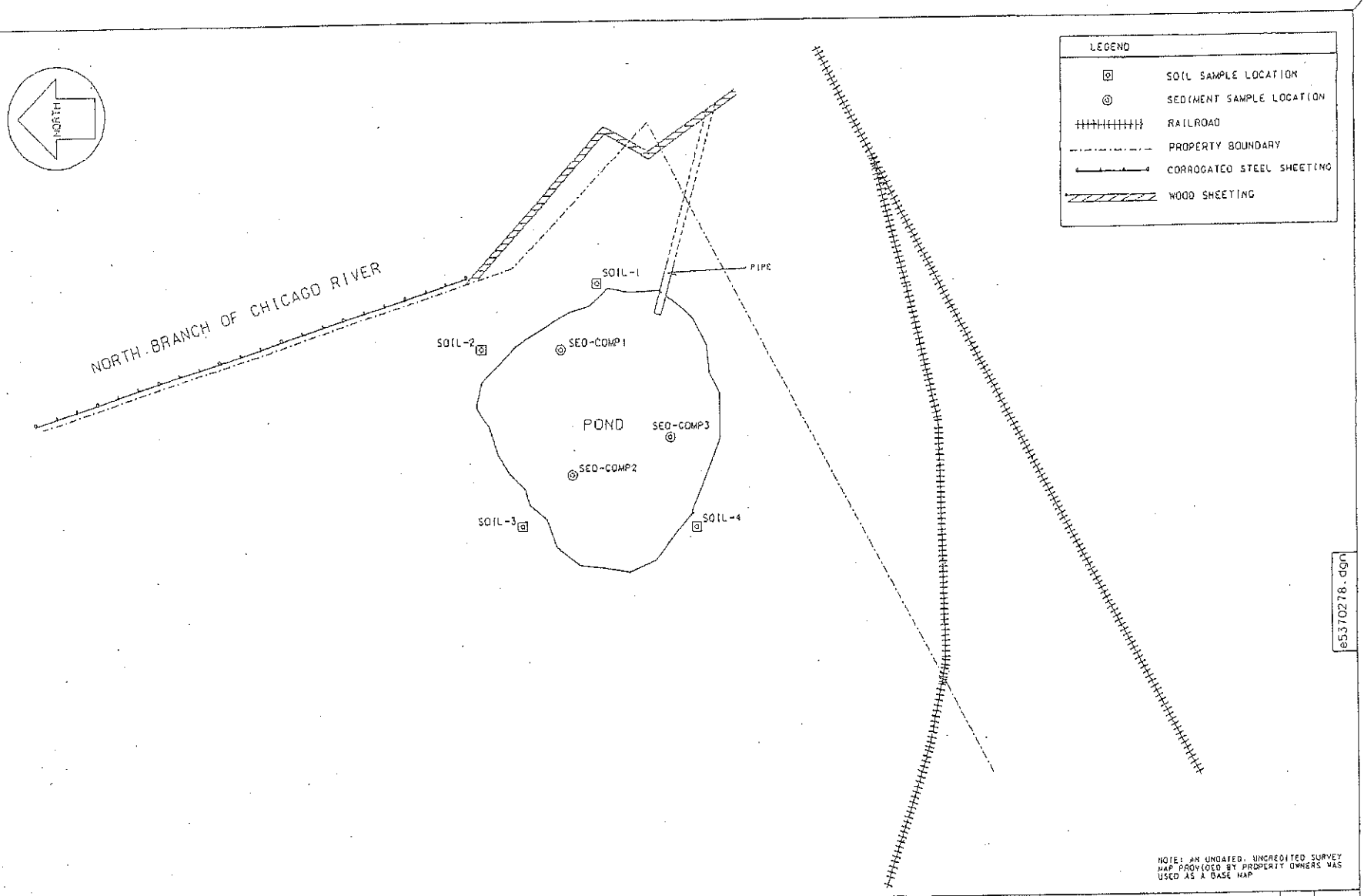
- Sample documentation
- Decontamination procedures or use of dedicated equipment between samples
- Use of chain-of-custodies
- Sample holding time documentation
- Instrument calibration documentation
- Use of method blank, rinsate blank (if applicable) and trip blank (for VOC samples)
- Use of one matrix spike/matrix spike duplicate

Investigation Derived Waste (IDW)

IDW generated during sampling activities will be contained for disposal at a later time. Pond water decanted from sediment samples will be allowed to reenter the pond, and soil cuttings generated during soil sampling will be placed back into the sampling hole.

Schedule

Soil and sediment sampling around and within the stormwater pond is scheduled for the week of March 13, 2000 and is expected to be completed within one day. Analytical results are expected from the laboratory approximately three weeks thereafter.



NOTE: AN UNDATED, UNCREDITED SURVEY MAP PROVIDED BY PROPERTY OWNERS WAS USED AS A BASE MAP

GRAPHICAL SCALE

0 15 30 FEET

APPROXIMATE

REV.	DATE	DESCRIPTION	CAD	APP'D

JOB LOC. METAL MANAGEMENT MIDWEST INC.
1509 W. CORTLAND AVE. PLANT
CHICAGO, ILLINOIS

TITLE: SOIL/SEDIMENT SAMPLING PLAN

CPI ENVIRONMENTAL SERVICES, INC.
799 ROOSEVELT ROAD, BUILDING 6, SUITE 110
GLEN ELLYN, IL 60137

DATE	DESIGNED	CAD	CHECKED	APP'D
2-22-00	MBP	SS	MBP	MBP

DWG NO. e5370278.dgn | JOB NO. ES-37-02-78 | SCALE: APPROX. 1"=30'

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604-3590

REPLY TO THE ATTENTION OF:

SE-5J

DATE: 12 November 1998

SUBJECT: Preliminary Site Assessment and Conduct of Multi-media Sampling at the Cometco (a Cozzi Iron & Metals Site) Facility, Chicago, Cook County, Illinois

FROM: Paul R. Steadman, OSC
Oil Planning & Response Section

TO: Beverly J. Kush, Chief
Oil Planning & Response Section

Sherry Estes, Asst. Reg. 5 Counsel
Office of Regional Counsel

On Tuesday, November 10, 1998, representatives of this agency's Waste, Pesticides and Toxics Division, its Water Division, and the Division of Superfund representing both CERCLA and OPA interests met at the subject facility to commence a scheduled preliminary site assessment including multi-media sample gathering at 0900H. The Toxics Division was represented by Ken Zolnierczyk, the Water Division was represented by Howard Duckman, and I fulfilled the interests of Superfund and the Oil Pollution Act. The interests of RCRA compliance were overseen by Mr. Gino Bruni of the Illinois EPA but no one from the federal program participated in this site assessment and multi-media analytical sampling initiative. During the planning phase on Friday, November 6, 1998, for this facility visitation the interests of RCRA at this Site were emphasized as first and foremost, so much so that there was an initial commitment for monetary resources to cover the costs of the sample analysis and monitoring since that program already had a certified laboratory in place and under contract for such analytical procedures. Ultimately, the financial burden for this became shifted to Superfund to cover the expenditures, and our START contractors from Ecology and Environment undertook the identification of a laboratory for the environmental sample analyses of all media derived from the Cometco facility.

Mr. Mark LaRose and Mr. Frank DiVito, the attorneys representing Cozzi Iron and Metals Company, and Ms. Debra Levin, Cozzi's Environmental Compliance Officer, met with us initially to discuss our plans to sample, photograph and inspect the facility. We were accompanied throughout this day long site assessment work by Mr. LaRose and Ms. Levin.

They requested that they be supplied with split samples of all media EPA took from this Site for laboratory identification and concentration determination. Likewise they took photographs at and from the same locations that we took pictures from, and they made continuous and copious notations of all of our field activities, questions posed, and comments made. Mr. Duckman of the Water Division was able to obtain a boat with the assistance of the Metropolitan Water Reclamation District which facilitated our ability to photograph and try to sample the facility from the east side edge of the site on the Chicago River.

I asked Mr. LaRose and Ms. Levin for information concerning frequency of pumping and any analytical data regarding the contents of the on-site settling pond. They confirmed that the contents of this pond are pumped out, based on the weather and precipitation accumulation, at least three times annually and the waste hauler conducts analysis of the material from the pond prior to its disposal. I told them that we may request copies of these records and data at a later date. Too, since both of these alluded to some previous "overflows" from the pond, I asked them to assure that the pumping frequency from this pond be increased to assure that no instances of such discharges occur hereinafter. As well, I asked them to increase the height by approximately of the berm on the eastern side of the facility along the river's edge as an additional measure to reduce the potential of hazardous constituent overflow from the facility. This recommendation was made in response to the company's installation of temporary boom materials in this location.

A site debriefing meeting was held at the termination of the assessment and sampling program. I made it clear that additional corrective action may be forthcoming from the U.S. EPA based on that which the analytical sampling data indicates. A full report including sample data validation will be available within thirty days of this initial site investigation report.